

Supplemental Table 2a: Novel Twist binding regions determined by ChIP-seq data

Associated gene name	Annotation ID	Tested Region Coordinates	Twist ChIP-seq signal size (RPM over whole region)	Supports Expression	Explanatory site	Defined by ChIP-chip/-seq	Peak Location
<i>sna</i>	CG3956	Chr2L:15485571-15487571*	233.4	Yes	CACATG	Yes/Yes	Exon ¹
<i>apt</i>	CG5393	Chr2R:19460067-19462066	229.6	Yes	CACATG	Yes/Yes	Intergenic
<i>sog</i>	CG9224	ChrX:1554000-15541901	160.7	Yes	CATCTG	Yes/Yes	Intergenic
<i>ventally-expressed-protein-D</i>	CG33200	Chr2R:18295567-18296766	145.6	Yes	CAGCTG	Yes/Yes	Promoter proximal
<i>CG8965</i>	CG8965	Chr2L:5870750-5871849	121	No	CACATG	Yes/Yes	Intron
<i>emc</i>	CG1007	Chr3L:742059-743659	119.5	Yes	CAGCTG	Yes/Yes	Intergenic
<i>cg</i>	CG8367	Chr2R:10061749-10062800	118	No	NA	Yes/Yes	Intron
<i>hh</i>	CG4637	Chr3R:18967451-18968550	117.1	Yes	CAGATG	Yes/Yes	Promoter proximal
<i>Cnx99A</i>	CG11958	Chr3R:25134141-25135377	114.8	Yes	CACATG	Yes/Yes	Intergenic
<i>seq</i>	CG32904	Chr2R:9076428-9077427	93	No	CACATG	Yes/Yes	Promoter proximal
<i>brk</i>	CG9653	ChrX:7214185-7215408	92.6	Yes	CATATG	Yes/Yes	Intergenic ²
<i>Mef2</i>	CG1429	Chr2R:5847634-5848273	78	Yes	CATATG	Yes/Yes	Intergenic ³
<i>cnn</i>	CG4832	Chr2R:9334816-9336990	77.6	No	CACATG	Yes/Yes	Promoter proximal
<i>Traf4</i>	CG3048	Chr2L:4369850-4370849	77.5	Yes	CACATG	Yes/Yes	Intergenic
<i>Dscam</i>	CG17800	Chr2R:3268100-3268475	73.9	Yes	CACATG	Yes/Yes	Intron
<i>hth</i>	CG17117	Chr3R:6427854-6428902	65.9	No	CACATG	Yes/Yes	Intron
<i>pnt</i>	CG17077	Chr3R:19169181-19170380	64.1	Yes	CACATG	Yes/Yes	Intron
<i>Cyp310a</i>	CG10391	Chr2L:18652293-18653292	53.2	Yes	CAGATG	Yes/Yes	Exon
<i>psc</i>	CG3886	Chr2R:8872127-8873594	53.1	No	CAGATG	Yes/Yes	Intergenic
<i>how</i>	CG10293	Chr3R:17870013-17871012	45	Yes	CATATG	Yes/Yes	Intron
<i>CycB</i>	CG3510	Chr2R:18690200-18691300	44.8	Yes	CACATG	Yes/Yes	Intergenic
<i>mirr</i>	CG10601	Chr3L:12670165-12671257	43.3	Yes	CACGTG	Yes/Yes	Intergenic
<i>twi</i>	CG2956	Chr2R:18936997-18938126	36.9	Yes	CACATG	Yes/Yes	Intergenic
<i>BobA</i>	CG12487	Chr3L:14945343-14947303	25.9	Yes	NA	Yes/Yes	Intergenic
<i>cact</i>	CG5848	Chr2L:16318750-16320750	21.8	Yes	CACATG	Yes/Yes	Intron
<i>Ocho</i>	CG3396	Chr3L:14968341-14970091	20.9	Yes	CACATG	Yes/Yes	Intergenic
<i>egr</i>	CG12919	Chr2R:5964200-5966200	13.6	No	CACGTG	Yes/No	Promoter proximal
<i>Asph</i>	CG8421	Chr2R:11997142-11999642	12.7	Yes	CACATG	Yes/No	Intron
<i>odd</i>	CG3851	Chr2L:3608800-3609500	<4	Yes	NA	Yes/No	Intergenic
<i>croc</i>	CG5069	Chr3L:21471259-21475259	<4	Yes	NA	Yes/No	Intergenic

<i>Nrt</i>	CG9704	Chr3L:16759474-16762173	<4	No	NA	Yes/No	Intergenic
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* *D.melanogaster* (dm3, April 2006, BGDP release 5) genome assembly.

1 This *sna* enhancer is located in the 1st intron and 2nd exon of *Tim17b2*

2 This *brk* enhancer is located in the 5th intron of *Atg5*

3 This *Mef2* enhancer is located in the 2nd intron of *CG12130*

Supplemental Table 2b: Names and coordinates of classical D/V enhancers

Associated gene name	Annotation ID	Enhancer Region Coordinates	Twist ChIP-seq signal size (RPM over whole region)	Enhancer type I / II / III /Citation	Explanatory site	Defined by ChIP-chip/-seq	Peak Location
<i>mir-1</i>	CR32958	Chr2L:20480577-20481741	235.6	I / Zeitlinger et al. (2007)	CACATG	Yes/Yes	Promoter proximal
<i>Mef2</i>	CG1429	Chr2R:5819035-5820049	234.8	I / Nguyen and Xu (1998)	CACATG	Yes/Yes	Intron
<i>rho</i>	CG1004	Chr3L:1461823-1462121	231.6	II / Ip et al. (1992)	CA(CA/TA)TG	Yes/Yes	Gene distal
<i>sim</i>	CG7771	Chr3R:8895836-8896466	139.8	II / Kasai et al. (1998)	CATATG	Yes/Yes	Intron
<i>vnd</i>	CG6172	ChrX:485983-487688	139.7	II / Stathopoulos et al. (2002)	CACATG	Yes/Yes	Intron
<i>tin</i>	CG7895	Chr3R:17205671-17206053	106.8	I / Yin et al. (1997)	CACATG	Yes/Yes	Intron
<i>brk</i>	CG9653	ChrX:7190967-7191464	58.1	II / Markstein et al. (2004)	CACATG	Yes/Yes	Intergenic
<i>htl</i>	CG7223	Chr3R:13875600-13876391	52.8	I / Stathopoulos et al. (2004)	CACATG	Yes/Yes	Intron
<i>CG4221</i>	CG4221	Chr3R:11746513–11748343	39.4	I / Sandman et al. (2007)	NA	Yes/Yes	Exon
<i>sna</i>	CG3956	Chr2L:15478170-15481082	39	I / Ip et al. (1994)	NA	Yes/Yes	Intergenic
<i>retn</i>	CG5403	Chr2R:19145341–19147650	38.5	I / Sandman et al. (2007)	CATCTG	Yes/Yes	Intron
<i>sog</i>	CG9224	ChrX:15518731-15519122	27.9	III / Markstein et al. (2004)	NA	Yes/Yes	Intron
<i>vein</i>	CG10491	Chr3L:5828771-5829267	24.1	II / Markstein et al. (2004)	CACATG	Yes/Yes	Intron
<i>ths</i>	CG12443	Chr2R:7681727-7682234	22.7	III / Stathopoulos et al. (2002)	CAGCTG	Yes/Yes	Intron
<i>T48</i>	CG5507	Chr3R:22707641–22709469	21	I / Sandman et al. (2007)	CAGCTG	Yes/Yes	Intron
<i>cact</i>	CG5848	Chr3R:22707641–22709469	16	I / Sandman et al. (2007)	CACATG	Yes/Yes	Intron
<i>twi</i>	CG2956	Chr2R:18932428-18933842	7.2	I / Thisse et al. (1992)	NA	Yes/Yes	Promoter proximal
<i>Ady43A</i>	CG1851	Chr2R:3133869-3134085	<4	II / Markstein et al. (2004)	NA	No/No	Promoter proximal
<i>CG32372</i>	CG32372	Chr3L:7495,261–7497085	<4	I / Sandman et al. (2007)	NA	No/No	Intron
<i>CG8788</i>	CG8788	Chr2R:4650254–4650882	<4	I / Sandman et al. (2007)	NA	Yes/No	Intron
<i>crb</i>	CG6383	chr3R:20123093–20123803	<4	I / Sandman et al. (2007)	NA	Yes/No	Intron
<i>dpp</i>	CG9885	Chr2L:2456346-2456884	<4	III / Huang et al. (1993)	NA	No/No	Intron
<i>E(spl)</i>	CG8365	Chr3R:21864777-21865879	<4	II / Papatsenko et al (2005)	NA	Yes/No	Promoter proximal
<i>llp4</i>	CG6736	Chr3L:9797449-9797743	<4	I / Stathopoulos et al. (2002)	NA	No/No	Intron
<i>ind</i>	CG11551	Chr3L:15032420-15033835	<4	III / Stathopoulos et al. (2005)	NA	No/No	Intergenic

<i>Mrd49</i>	CG3879	Chr2R:8833934-8834294	<4	I / Zeitlinger et al. (2007)	NA	No/No	Promoter proximal
<i>phm</i>	CG6578	Chr2R:19875348-19875790	<4	II / Markstein et al. (2004)	NA	Yes/No	Intron
<i>stumps</i>	CG31317	Chr3R:10423060-10424098	<4	I / Stathopoulos et al. (2004)	NA	Yes/No	Intron
<i>tld</i>	CG6868	Chr3R:20574723-20575519	<4	I / Kirov et al. (1994)	NA	No/No	Promoter proximal
<i>vnd</i>	CG6172	ChrX:477514-479251	<4	II / Zeitlinger et al. (2007)	NA	Yes/No	Intron
<i>WntD</i>	CG8458	Chr3R:9118955-9119462	<4	I / Sandman et al. (2007)	NA	Yes/No	Promoter proximal
<i>zen</i>	CG1046	Chr3R:2579866-2581378	<4	III / Markstein et al. (2004)	NA	Yes/No	Intergenic